US007292267B2

(12) **United States Patent**
Prentice et al.

(10) **Patent No.: US 7,292,267 B2**
(45) **Date of Patent: Nov. 6, 2007**

(54) **DUAL MODE DIGITAL IMAGING AND CAMERA SYSTEM**

(75) Inventors: **Wayne E. Prentice**, Honeoye Falls, NY (US); **Thomas N. Berarducci**, Webster, NY (US); **Kenneth A. Parulski**, Rochester, NY (US)

(73) Assignee: **Eastman Kodak Company**, Rochester, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1002 days.

(21) Appl. No.: **10/274,658**

(22) Filed: **Oct. 21, 2002**

(65) **Prior Publication Data**

US 2003/0030729 A1 Feb. 13, 2003

Related U.S. Application Data

(63) Continuation of application No. 08/712,692, filed on Sep. 12, 1996, now abandoned.

(51) **Int. Cl.**
H04N 5/225 (2006.01)

(52) **U.S. Cl.** **348/207.1**; 348/220.1

(58) **Field of Classification Search** 348/220.1, 348/252

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,444,483 A * 8/1995 Maeda 348/231.6
5,675,358 A 10/1997 Bullock et al.
5,712,680 A * 1/1998 Hieda 348/220.1
5,734,427 A * 3/1998 Hayashi 348/333.11
5,959,622 A * 9/1999 Greer et al. 715/719
5,969,750 A * 10/1999 Hsieh et al. 348/14.1

* cited by examiner

Primary Examiner—David Ometz
Assistant Examiner—Luong T. Nguyen
(74) *Attorney, Agent, or Firm*—Thomas J. Strouse

(57) **ABSTRACT**

A dual mode digital imaging system has a still processing mode that produces an output image in a first color space and a motion processing mode that produces an output image in a second color space, in particular a first color space that is RGB and a second color space that is YUV. The digital imaging system includes a dual mode digital camera for use with a computer and a processing application for running on the computer, wherein the motion mode processing is relatively less complex than the still mode processing although at least one common control parameter is used to control both modes. The motion mode processing, which is performed using algorithms and software approaches designed to minimize processing time, nonetheless produces an entirely adequate relatively low resolution YUV image appropriate for applications such as videoconferencing. The still mode processing, on the other hand, uses more elaborate algorithms to optimize the image quality of a relatively high resolution RGB output image.

19 Claims, 7 Drawing Sheets